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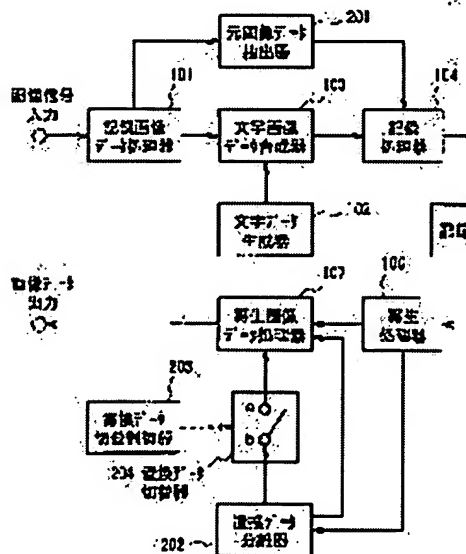
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(54) IMAGE PROCESSOR



(57)Abstract:

PROBLEM TO BE SOLVED: To provide an image processor capable of freely displaying both an image on which characters are superimposed and an image on which characters are not superimposed on a monitor when the images are reproduced even though the characters are written and recorded on the image when the image is photographed.

SOLUTION: This image processor is provided with a record image data processor 101 for generating full-screen image data, a data generator 102 for generating character data, a character image data synthesizing device 103 for generating character image data, an original image data extractor 201 for extracting original image data, a recording processor 104 for performing processing that records the character image data and the original image data, a recording medium 105, a reproduction processor 106 for reading and outputting an image file, a header separator 202 for separating a header part of the image file and extracting the header part, a

replacement data switching device 204 for switching whether or not to output replacement data, a replacement data switching controller 203 for controlling the replacement data switching device 204, and a reproduction image data processor 107 for preparing reproduction image data.

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CLAIMS

[Claim(s)]

[Claim 1] The alphabetic character image data which superimposed the alphabetic character on
the full-screen image data created by performing predetermined signal processing to the picture
signal inputted, The former image data which is image data of the range which superimposes the
alphabetic data which is data which permuted said alphabetic character by the predetermined
record format in said full-screen image data, In the image processing system which makes
refreshable said alphabetic character image data recorded at the Records Department which
records on a record medium, and said Records Department, and said former image data said
Records Department A full-screen image data generation means to generate said full-screen
image data, an alphabetic data generation means to generate said alphabetic data, and by
superimposing said alphabetic data on said full-screen image data at a position An alphabetic
character image data generation means to compound said full-screen image data and said
alphabetic data, and to generate said alphabetic character image data, A former image data
extraction means to extract said former image data, and said alphabetic character image data and
said former image data, as an image file by the predetermined graphics file format with a part for
a header unit It has a data-logging processing means to perform processing recorded on said
record medium. Said playback section A regeneration means to read and output a part for the
header unit of the image file of said alphabetic character image data recorded on said record
medium, or said former image data, and said image file, The header separation means which
incorporates a part for the header unit of the image file of said former image data read with said
regeneration means, and carries out the separation extract of the part for said header unit, The
permutation data change means which changes whether the permutation data for permuting the
predetermined range in said alphabetic character image data currently recorded on a part for said
header unit separated in said header separation means by said former image data are outputted,
When said permutation data by which the separation extract was carried out in the permutation
data change control means which controls said permutation data change means, and said header
separation means are inputted through said permutation data change means Perform
predetermined signal processing after permuting the image data of the predetermined range in
said alphabetic character image data read by said regeneration means by said former image data
according to the contents of said permutation data, and playback image data is created. When not
inputting said permutation data by which the separation extract was carried out in said header
separation means The image processing system characterized by having a playback image-data-
processing means to perform predetermined signal processing to said alphabetic character image
data read by said regeneration means, and to create playback image data.

[Claim 2] Said former image data extracted by the amount of [of the image file corresponding to

said alphabetic character image data] header unit with said former image data extraction means in the image processing system according to claim 1, The data about said former image data are recorded as an auxiliary data. Said playback image-data-processing means When said permutation data are inputted from said header separation means The image data of the predetermined range in said alphabetic character image data which carried out the direct input of said auxiliary data from said header separation means, and was read by said regeneration means The image processing system characterized by performing predetermined signal processing after permuting by said former image data currently recorded on said auxiliary data, and creating playback image data.

[Claim 3] It is the image processing system characterized by being data in which the head location of said former image data [in / on an image processing system according to claim 2 and / in said auxiliary data / said alphabetic character image data] and the range of said former image data in said alphabetic character image data are shown.

[Claim 4] The image processing system characterized by recording the identifier which shows existence of said former image data to the head of said auxiliary data in an image processing system according to claim 2 or 3.

[Claim 5] In an image processing system according to claim 1 to 4 said playback section Furthermore, the playback image data after a permutation which is playback image data after the image data of the predetermined range in the playback image data under processing was permuted by said former image data in said playback image-data-processing means A data-logging means after a permutation to record on said data-logging processing means, and the record control means which controls said data-logging means after a permutation, The playback image data before a permutation which is playback image data before the image data of the predetermined range of said playback image data is permuted by said former image data in said playback image-data-processing means is extracted. A data extraction record means before a permutation to record this on said data-logging processing means, In case a preparation, said front [permutation] playback image data, or said playback image data after a permutation is recorded on said data-logging processing means Said regeneration means is an image processing system characterized by making it output a part for the header unit of the image file corresponding to the playback image data which became the origin of said after [a permutation] playback image data, or said playback image data before a permutation to said data-logging processing means.

[Claim 6] In an image processing system according to claim 5, in recording said playback image data after a permutation, and said playback image data before a permutation on said record medium through said data-logging processing means The image file about said after [a permutation] playback image data, and said playback image data before a permutation [whether the image file corresponding to the playback image data which became the origin of said after / a permutation / playback image data already recorded on said record medium or said playback image data before a permutation is overwritten, and it records on it, and] Or the image processing system characterized by the ability to choose whether it records as an image file newly created separately.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the equipment which changed the image data to which data, such as an alphabetic character (an icon, a pictorial symbol, etc. are included), were superimposed, and alphabetic data superimposed them about the image processing system recorded and reproduced especially at the time of playback into what alphabetic data does not superimpose, and enabled the display of it to the photoed image.

[0002]

[Description of the Prior Art] Conventionally, a photographic subject is photoed and there is a thing with the function which writes in alphabetic characters photoed on the image data, such as the date and time of day, in the digital still camera (a camera is only called hereafter) which records this as image data. The alphabetic character written in the image data photoed with this conventional camera can be checked by reproducing that image data, and displaying on a monitor, and printing out by a printer etc.

[0003] It explains briefly [below], referring to a drawing about such a conventional camera (image processing system). The block diagram about the conventional image processing system is shown in drawing 5 . The conventional image processing system consists of the record image-data-processing machine 101, the alphabetic data generation machine 102, the alphabetic character image merge machine 103, the record treater 104, a record medium 105, a regeneration machine 106, and a playback image-data-processing machine 107.

[0004] First, by the record side, after carrying out A/D conversion of the signal inputted from the solid state image sensor which is not illustrated with the record image-data-processing vessel 101, gamma processing, white balance processing, etc. are performed, predetermined processing of generating Y, Cb, and Cr data after that is performed, and the image data for a full screen is generated. Moreover, the alphabetic data generation machine 102 changes alphabetic data, such as the date and time of day, into image data in the form of predetermined, and generates the alphabetic data which is image data for superimposing on the image data for a full screen.

[0005] The image data for the full screen processed with the record image-data-processing vessel 101 and the alphabetic data generated with the alphabetic data generation vessel 102 are sent to the alphabetic character image merge machine 103, respectively. With the alphabetic character image merge vessel 103, alphabetic data is superimposed on a position to the image data of a full screen. And in the record treater 104, it processes for recording on a record medium 105, and records on this in the form of a predetermined image file.

[0006] Next, in a playback side, the regeneration machine 106 performs predetermined processing from a record medium 105, and reads an image file. And the image file read with the regeneration vessel 106 is outputted to the display which is not illustrated, in order to be sent to the playback image-data-processing machine 107, to perform predetermined processing to the image data in it and to display on a monitor.

[0007]

[Problem(s) to be Solved by the Invention] However, if the alphabetic character was written in and recorded on image data in the conventional image processing system at the time of photography, since it became impossible for the written-in alphabetic character to have erased this, it would display on the monitor, and the alphabetic character overwritten by what reproduced the image data and printed out will always be outputted, and it was a problem.

[0008] Then, in view of such a trouble, it succeeds in this invention, and even if the purpose writes in and records an alphabetic character on an image at the time of photography, it is to

offer the image with which it was superimposed on the alphabetic character or the former image before being superimposed on an alphabetic character, and ***** or the image processing system chose, and was made to display on a monitor or it was made to be possible [whose print-out].

[0009]

[Means for Solving the Problem] In order to attain the above-mentioned technical problem, in the image processing system of this invention according to claim 1 The alphabetic character image data which superimposed the alphabetic character on the full-screen image data created by performing predetermined signal processing to the picture signal inputted, The former image data which is image data of the range which superimposes the alphabetic data which is data which permuted said alphabetic character by the predetermined record format in said full-screen image data, In the image processing system which makes refreshable said alphabetic character image data recorded at the Records Department which records on a record medium, and said Records Department, and said former image data said Records Department A full-screen image data generation means to generate said full-screen image data, an alphabetic data generation means to generate said alphabetic data, and by superimposing said alphabetic data on said full-screen image data at a position An alphabetic character image data generation means to compound said full-screen image data and said alphabetic data, and to generate said alphabetic character image data, A former image data extraction means to extract said former image data, and said alphabetic character image data and said former image data, as an image file by the predetermined graphics file format with a part for a header unit It has a data-logging processing means to perform processing recorded on said record medium. Said playback section A regeneration means to read and output a part for the header unit of the image file of said alphabetic character image data recorded on said record medium, or said former image data, and said image file, The header separation means which incorporates a part for the header unit of the image file of said former image data read with said regeneration means, and carries out the separation extract of the part for said header unit, The permutation data change means which changes whether the permutation data for permuting the predetermined range in said alphabetic character image data currently recorded on a part for said header unit separated in said header separation means by said former image data are outputted, When said permutation data by which the separation extract was carried out in the permutation data change control means which controls said permutation data change means, and said header separation means are inputted through said permutation data change means Perform predetermined signal processing after permuting the image data of the predetermined range in said alphabetic character image data read by said regeneration means by said former image data according to the contents of said permutation data, and playback image data is created. When not inputting said permutation data by which the separation extract was carried out in said header separation means, it is characterized by having a playback image-data-processing means to perform predetermined signal processing to said alphabetic character image data read by said regeneration means, and to create playback image data.

[0010] In the image processing system of this invention according to claim 2 Said former image data extracted by the amount of [of the image file corresponding to said alphabetic character image data] header unit with said former image data extraction means in the image processing system according to claim 1, The data about said former image data are recorded as an auxiliary data. Said playback image-data-processing means When said permutation data are inputted from said header separation means The image data of the predetermined range in said alphabetic

character image data which carried out the direct input of said auxiliary data from said header separation means, and was read by said regeneration means It is characterized by performing predetermined signal processing after permuting by said former image data currently recorded on said auxiliary data, and creating playback image data.

5 [0011] In the image processing system of this invention according to claim 3, said auxiliary data is characterized by being data in which the head location of said former image data in said alphabetic character image data and the range of said former image data in said alphabetic character image data are shown in an image processing system according to claim 2.

10 [0012] In the image processing system of this invention according to claim 4, it is characterized by recording the identifier which shows existence of said former image data to the head of said auxiliary data in an image processing system according to claim 2 or 3.

15 [0013] In the image processing system of this invention according to claim 5 In an image processing system according to claim 1 to 4 said playback section Furthermore, the playback image data after a permutation which is playback image data after the image data of the predetermined range in the playback image data under processing was permuted by said former image data in said playback image-data-processing means A data-logging means after a permutation to record on said data-logging processing means, and the record control means which controls said data-logging means after a permutation, The playback image data before a permutation which is playback image data before the image data of the predetermined range of
20 said playback image data is permuted by said former image data in said playback image-data-processing means is extracted. A data extraction record means before a permutation to record this on said data-logging processing means, In case a preparation, said front [permutation] playback image data, or said playback image data after a permutation is recorded on said data-logging processing means Said regeneration means is characterized by making it output a part for
25 the header unit of the image file corresponding to the playback image data which became the origin of said after [a permutation] playback image data, or said playback image data before a permutation to said data-logging processing means.

30 [0014] In the image processing system of this invention according to claim 6 In an image processing system according to claim 5, in recording said playback image data after a permutation, and said playback image data before a permutation on said record medium through said data-logging processing means The image file about said after [a permutation] playback image data, and said playback image data before a permutation [whether the image file corresponding to the playback image data which became the origin of said after / a permutation / playback image data already recorded on said record medium or said playback image data before
35 a permutation is overwritten, and it records on it, and] Or it is characterized by the ability to choose whether it records as an image file newly created separately.

[0015]

[Embodiment of the Invention] Hereafter, it explains, referring to a drawing about the gestalt of operation of this invention. In addition, the gestalt of operation shown here is an example to the
40 last, and is not necessarily limited to the gestalt of this operation.

[0016] (Gestalt 1 of operation) It explains first as a gestalt of the 1st operation of claim 1 thru/or the image processing system according to claim 4 of this invention, referring to a drawing. In addition, in the gestalt of this operation, although an image processing system explains bearing a digital still camera in mind, it is not limited to this.

45 [0017] The alphabetic character image data which superimposed alphabetic data on the full-screen image data created when the image processing system concerning the gestalt of this

operation performs predetermined signal processing to the picture signal inputted, The former image data which is image data of the range which superimposes the alphabetic data which is data which permuted the alphabetic character by the predetermined record format in this full-screen image data, As it is the image processing system which makes refreshable the alphabetic character image data recorded at the Records Department which records on a record medium, and this Records Department, and former image data and is shown in drawing 1 The record image-data-processing machine 101, the alphabetic data generation machine 102, the alphabetic character image merge machine 103, the record treater 104, a record medium 105, the regeneration machine 106, the playback image-data-processing machine 107, the former image data extraction machine 201, the permutation data eliminator 202, the permutation data change controller 203, The image after the image data of the part which is equipped with the permutation data switcher 204 and overwritten in written form at the time of playback was superimposed on the alphabetic character by transposing to the original image data, Or it displays on a monitor whether it is the former image and ***** which are not superimposed on the alphabetic character, or is made to be possible [print-out].

[0018] When these the blocks of each are explained, the record image-data-processing machine 101 is a full-screen image data generation means to generate full-screen image data, first. The alphabetic data generation machine 102 is an alphabetic data generation means to generate the alphabetic data which changed the alphabetic character according to predetermined record formats, such as image data. The alphabetic character image merge machine 103 is an alphabetic character image data generation means to compound full-screen image data and alphabetic data, and to generate alphabetic character image data by superimposing alphabetic data on a position on full-screen image data. Moreover, the former image data extraction machine 201 is a former image data extraction means to extract former image data, the record treater 104 is a data-logging processing means to perform processing which records alphabetic character image data and former image data on a record medium 105 as an image file by the predetermined graphics file format with a part for a header unit, and a record medium 105 records the image file processed with the record treater 104. And the Records Department is constituted by the above block.

[0019] Next, the image file of the alphabetic character image data by which the regeneration machine 106 was recorded on the record medium 105, or former image data, And it is a regeneration means to read and output a part for the header unit of an image file. The permutation data eliminator 202 incorporates a part for the header unit of the image file of the former image data read with the regeneration vessel 106. Are the header separation means which carries out the separation extract of the part for a header unit, and the permutation data switcher 204 is recorded on a part for the header unit separated in the permutation data eliminator 202. It is the permutation data change means which changes whether the permutation data for permuting the predetermined range in alphabetic character image data by former image data are outputted. The permutation data change controller 203 is a permutation data change control means which controls the permutation data switcher 204. When the permutation data by which the separation extract was carried out in the permutation data eliminator 202 are inputted through the permutation data switcher 204, the playback image-data-processing machine 107 Perform predetermined signal processing after permuting the image data of the predetermined range in the alphabetic character image data read with the regeneration vessel 106 by former image data according to the contents of permutation data, and playback image data is created. When not inputting the permutation data by which the separation extract was carried out in the permutation data eliminator 202, it is a playback image-data-processing means to perform predetermined

signal processing to the alphabetic character image data read with the regeneration vessel 106, and to create playback image data. And the playback section is constituted by the above block. [0020] in addition, in the image processing system concerning the gestalt 1 of this operation The amount of [of the image file corresponding to alphabetic character image data] header unit Both of data ** about the former image data extracted with the former image data extraction vessel 201 and former image data are recorded as an auxiliary data. The playback image-data-processing machine 107 When permutation data are inputted from the permutation data eliminator 202 The image data of the predetermined range in the alphabetic character image data which carried out the direct input of the auxiliary data from the permutation data eliminator 202, and was read with the regeneration vessel 106 It is constituted so that predetermined signal processing after permuting by the former image data currently recorded on the auxiliary data may be performed and playback image data may be created. Furthermore, this auxiliary data is data in which the head location of the former image data in alphabetic character image data and the range of the former image data in alphabetic character image data are shown, and has recorded the identifier which shows existence of former image data to the head of an auxiliary data. About the above, it mentions later.

[0021] The actuation is explained about the image processing system concerning the gestalt 1 of this operation which consists of such blocks, referring to a drawing. First, at the Records Department, with the record image-data-processing vessel 101, after carrying out A/D conversion of the signal inputted from the solid state image sensor, gamma processing, white balance processing, etc. are performed, predetermined processing of generating Y, Cb, and Cr data after that is performed, and full-screen image data is generated. On the other hand, the alphabetic data generation machine 102 changes alphabetic characters, such as the date and time of day, into image data in the form of predetermined, and generates the alphabetic data for superimposing on full-screen image data. And the full-screen image data processed with the record image-data-processing vessel 101 and the alphabetic data generated with the alphabetic data generation vessel 102 are sent to the alphabetic character image merge machine 103, respectively.

[0022] With the alphabetic character image merge vessel 103, alphabetic data is superimposed on full-screen image data at a position. Compression processing is performed when reducing the amount of data of the full-screen image data superimposed on alphabetic data here. On the other hand, with the former image data extraction vessel 201, the image data of the range where it is superimposed on alphabetic data with the alphabetic character merge vessel 103 is extracted from full-screen image data.

[0023] And in the record treater 104, processing for recording the alphabetic character image data which is full-screen image data which was outputted from the alphabetic character image merge machine 103, and which was superimposed on the alphabetic character, and the former image data before being superimposed on the alphabetic character outputted from the former image data extraction machine 201 on a record medium 105 as an image file by the predetermined graphics file format, respectively is performed, and it records in the form of a predetermined image file to a record medium 105.

[0024] Next, in the playback section, the regeneration machine 106 performs predetermined processing to a record medium 105, and reads the image file currently recorded on the record medium 105. And the image file read with the regeneration vessel 106 is sent to the playback image-data-processing machine 107, performs predetermined processing to the full-screen image data in it, creates playback image data, and outputs it to the monitor which is not illustrating this

here. Elongation processing is also performed when full-screen image data is compressed in that case.

[0025] Moreover, while performing this processing, a part for the header unit of the image file reproduced with the regeneration vessel 106 is sent to the permutation data eliminator 202. And in the permutation data eliminator 202, the permutation data and the auxiliary data which were recorded on a part for a header unit are separated, and permutation data are first transmitted to the permutation data switcher 204.

[0026] It is the case where the image outputted from the playback image-data-processing machine 107 is overlapped on alphabetic characters, such as the date and time of day, and it is made to control by the permutation data change controller 203 to turn "ON" terminal a-b of the permutation data switcher 204 to eliminate this alphabetic data on which it is superimposed. By turning this "ON", the former image data before being superimposed on an alphabetic character is sent to the direct playback image-data-processing machine 107 from the header eliminator 202 in the form of an auxiliary data, and is restored to the form of former image data here. Moreover, from an auxiliary data, the information which shows the head location and range of the former image data in self-portrait data is also sent to the playback image-data-processing machine 107 at this time. And data are permuted based on the information, it is restored, the data, i.e., the full-screen image data, in the condition that there is no alphabetic character on which it was superimposed from alphabetic data, and this is outputted as playback image data.

[0027] On the other hand, if it controls to turn "OFF" terminal a-b of the permutation data switcher 204 with the permutation data change controller 203, an output will become possible by making into playback image data the image with which it was again superimposed on alphabetic characters, such as the date.

[0028] It explains briefly, referring to a drawing about the approach of recording former image data and the data about this on a part for the header unit of an image file as an auxiliary data here. Drawing 2 shows the extract approach of the former image data which is image data applicable to the part which permutes alphabetic data before superimposing alphabetic character image data on full-screen image data.

[0029] The head starting position (P, Q) of the former image data to full-screen image data, and the side of former image data and the vertical die length (W, H) are memorized first. Next, former image data is divided per block of a "SxT pixel." And the data of each block unit are extracted according to the record format of full-screen image data. In this format, the "YUV format" using the brightness data Y and the color difference data UV, a "RGB format", etc. can be considered.

[0030] And when for example, a record format is a "YUV format" (Y:U:V=4:2:0), each data is sequence as shown in drawing 3 , and records image data on a part for the header unit of an image file. The identifier which shows that the data following this are former image data is recorded on the head of an auxiliary data here. Thus, if it sets, the existence of permutation data to an image file which processes in the playback section can be recognized. Subsequently, the head locations P and Q, horizontal die-length W, vertical die-length H, and the value of Y, U, and V for every block are arranged.

[0031] By constituting the image processing system concerning the gestalt 1 of this operation in this way By also saving the former image data of the part which writes in an alphabetic character, and recording it on coincidence, when writing in and recording an alphabetic character on an image at the time of photography Even if it is the image with which the image data of the part on which the alphabetic character was superimposed can be transposed to the original image

data, and it can reproduce, namely, is not superimposed on the alphabetic character afterwards, this can be displayed on a monitor or it can be made to print out, when reproducing this.

[0032] (Gestalt 2 of operation) Next, it explains below as a gestalt 2 of operation of the image processing system indicated by claim 5 and claim 6 of this invention of this invention, referring to a drawing. In the gestalt 2 of this operation, the number same about the same block as the gestalt 1 of the operation explained previously is attached, and the explanation is omitted.

[0033] In the playback section of the image processing system explained with the gestalt 1 of operation as the image processing system concerning the gestalt 2 of this operation was shown in drawing 4 The playback image data after a permutation which is playback image data after the image data of the predetermined range in the playback image data under processing was permuted by former image data in the playback image-data-processing machine 107 The record switcher 302 which is an after [a permutation] data-logging means to record on the record treater 104, The record controller 301 which is the record control means which controls the record switcher 302, The playback image data before a permutation which is playback image data before the image data of the predetermined range of playback image data is permuted by former image data in the playback image-data-processing machine 107 is extracted. It has further the data extraction machine 303 before a permutation which is a front [permutation] data extraction record means to record this on the record treater 104.

[0034] Moreover, in case the data extraction machine 303 before a permutation records the playback image data before a permutation on the record treater 104, the regeneration machine 106 consists of image processing systems concerning the gestalt 2 of operation so that a part for the header unit of the image file corresponding to the playback image data which became the origin of after [a permutation] playback image data or the playback image data before a permutation may be outputted to the record treater 104.

[0035] Thus, it explains, referring to a drawing about actuation of the image processing system concerning the gestalt 2 of this implementation constituted. Although this image processing system performs the same actuation as the image processing system explained with the gestalt 1 of operation, the following actuation is also performed further.

[0036] As explained in the gestalt 1 of operation, it carries out based on the auxiliary data separated with the header eliminator 202. The image data from which data were permuted in the playback image-data-processing machine 107, and alphabetic characters, such as the date and time of day, were eliminated for full-screen image data, namely, in case the playback image data after a permutation is created and this is outputted, to save this playback image data after a permutation By turning "ON" terminal c-d of the record switcher 302 controlled by the record controller 301, the playback image data after a permutation outputted from the playback image-data-processing machine 107 is outputted also to the record treater 104.

[0037] Moreover, in the playback image-data-processing machine 107, the data extraction machine 303 before a permutation extracts this data and this is outputted to the record treater 104 to save the playback image data before a permutation which is image data of the part permuted by the former image data in the image data which superimposed alphabetic data on full-screen image data, without permuting data.

[0038] And further, in outputting after [a permutation] playback image data, or the playback image data before a permutation to the record treater 104, it outputs a part for the header unit of the image file corresponding to the playback image data which became the origin of after [a permutation] playback image data, or the playback image data before a permutation to the record treater 104 from the regeneration machine 106. And in the record treater 104 which inputs

such information, inputted information is image-file-ized in the same format as the 1st gestalt, and it records on a record medium 105.

[0039] in addition, although not explained in full detail here, in recording the playback image data after a permutation, and the playback image data before a permutation on a record medium 105 through record treater 104 means Record after [a permutation] playback image data, and the playback image data before a permutation on the record medium 105. or [overwriting the image file corresponding to after / a permutation / playback image data, or the playback image data before a permutation, and recording on it] -- or It can choose now whether a new image file is generated and recorded apart from the image file corresponding to after [a permutation] playback image data, or the playback image data before a permutation.

[0040] Thus, in the image processing system concerning the gestalt 2 of this operation, it becomes possible to display and to make it output free on whole screen image data by both the image with which it was superimposed on alphabetic characters, such as the date and time of day, and the image with which it is not superimposed on these alphabetic characters.

[0041] Therefore, the image with which the image processing system concerning the gestalt 2 of this operation was superimposed on alphabetic characters, such as the date and time of day, on the image data of a full screen, It can be used also as image transformation equipment which performs conversion with the image on which it is not superimposed, and if it is the image file recorded in conformity with the record format of the image processing system by the gestalt 1 of operation of this invention, it will become possible to perform conversion with the image with which it was superimposed on the alphabetic character, and the image on which it is not superimposed. For this reason, even if it is the picture reproducer which does not support the permutation of data like this invention, for example, the equipment equivalent to the playback section of the image processing system of drawing 5 , it becomes possible to carry out the display output also of which of the image with which it was superimposed on the alphabetic character, and the image on which it is not superimposed.

[0042] In addition, in the gestalten 1 and 2 of operation of this invention, the alphabetic character and picture which are superimposed on an image may be data of arbitration, and the format of arbitration is sufficient also as the record format of image data to record. Moreover, displays, such as a monitor, are sufficient as the output destination change of the image data after regenerating, and they may be equipments of arbitration, such as airline printers, such as a printer. The application software on a computer can also realize the gestalten 1 and 2 of operation mentioned above further again.

[0043]

[Effect of the Invention] As mentioned above, by also saving the original image data of the part which writes in an alphabetic character, and recording it on coincidence, when writing in and recording an alphabetic character on an image at the time of photography according to the image processing system of this invention according to claim 1 The image data of the part overwritten in written form at the time of playback can be transposed to the original image data, it can reproduce, and the effectiveness of the ability to also display on a monitor the image with which it is not superimposed on the alphabetic character afterwards, or make it printing out is acquired.

[0044] According to the image processing system of this invention according to claim 2, it is a playback side, and also when permuting alphabetic data and former image data and reproducing, the effectiveness that permutation data can be searched easily and can be permuted is acquired.

[0045] According to the image processing system of this invention according to claim 3, it also becomes possible to carry out adjustable [of the graphic size which can simplify permutation

processing and also is superimposed on the size and it of full-screen image data in every direction].

[0046] According to the image processing system of this invention according to claim 4, it becomes possible to recognize the existence of the data to permute.

5 [0047] ** which carries out the display output of which image even if it is the image on which it is not superimposed even if it is the image with which it was superimposed on the alphabetic character even if according to the image processing system of this invention according to claim 5 it enabled conversion with the image with which it was superimposed on alphabetic characters, such as the date and time of day, and the image on which it is not superimposed and used picture
10 reproducers other than this invention by this on whole image data -- the effectiveness of becoming possible easily is acquired.

[0048] According to the image processing system of this invention according to claim 6, it becomes possible to record the image file superimposed on the alphabetic character, the image file on which it is not superimposed, or both image files.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

20 [Drawing 1] It is the block diagram of the image processing system concerning the gestalt 1 of operation of this invention.

[Drawing 2] It is drawing showing an example of an approach which extracts the original image data of the location where it is superimposed on an alphabetic character from the full-screen image in the image processing system concerning the gestalt 1 of operation.

25 [Drawing 3] It is drawing showing an example which records an auxiliary data on the image data list of the origin depended on the image processing system concerning the gestalt 1 of operation at a part for the header unit of an image file.

[Drawing 4] It is the block diagram of the image processing system concerning the gestalt 2 of operation of this invention.

30 [Drawing 5] It is the block diagram of the conventional image processing system.

[Description of Notations]

101 Record Image-Data-Processing Machine

102 Alphabetic Data Generation Machine

103 Alphabetic Character Image Merge Machine

35 104 Record Treater

105 Record Medium

106 Regeneration Machine

107 Playback Image-Data-Processing Machine

201 Former Image Data Extraction Machine

40 202 Header Eliminator

203 Permutation Data Change Controller

204 Permutation Data Switcher

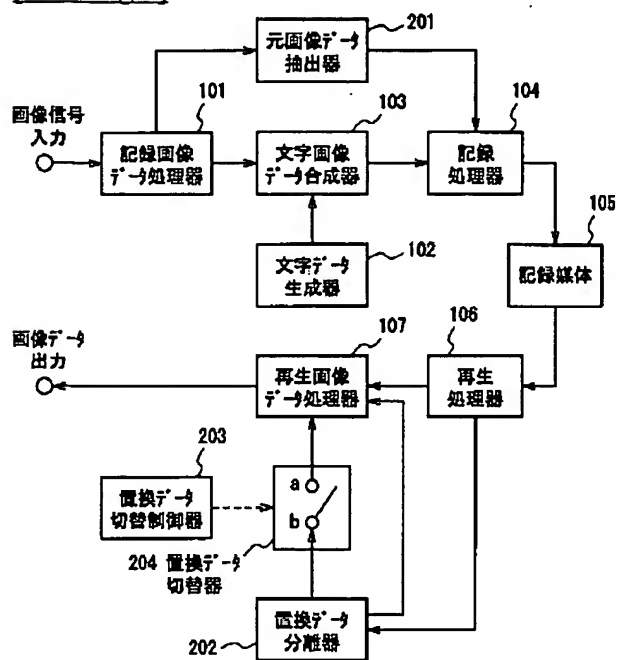
301 Record Controller

302 Record Switcher

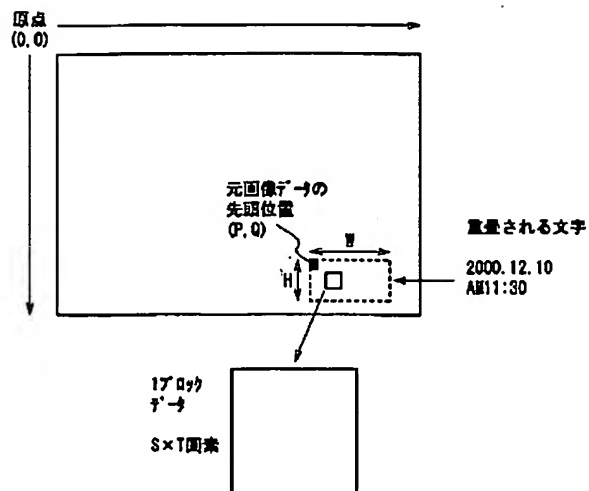
45 303 Front [Permutation] Data Extraction Machine

DRAWINGS

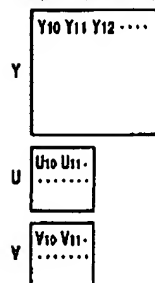
[Drawing 1]



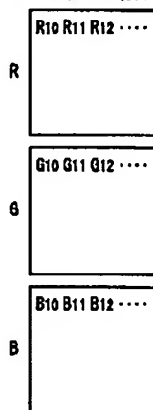
[Drawing 2]



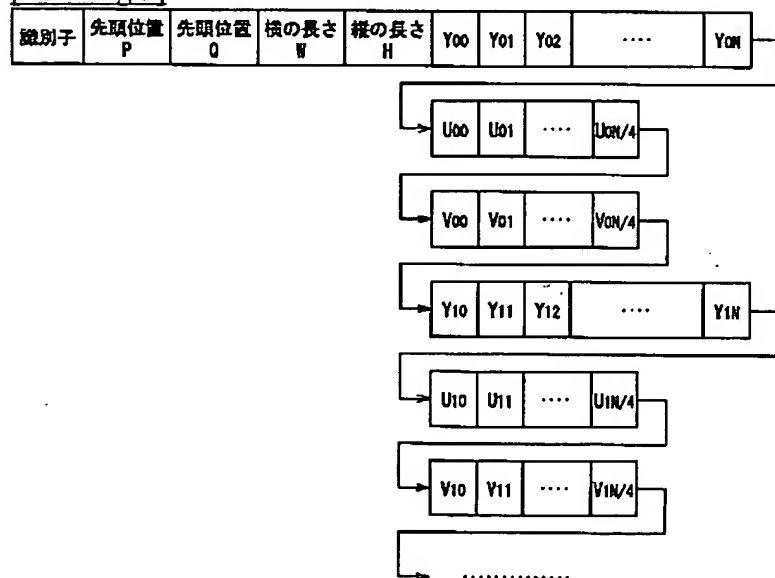
YUV (4:2:0) 形式の場合



RGB 形式の場合

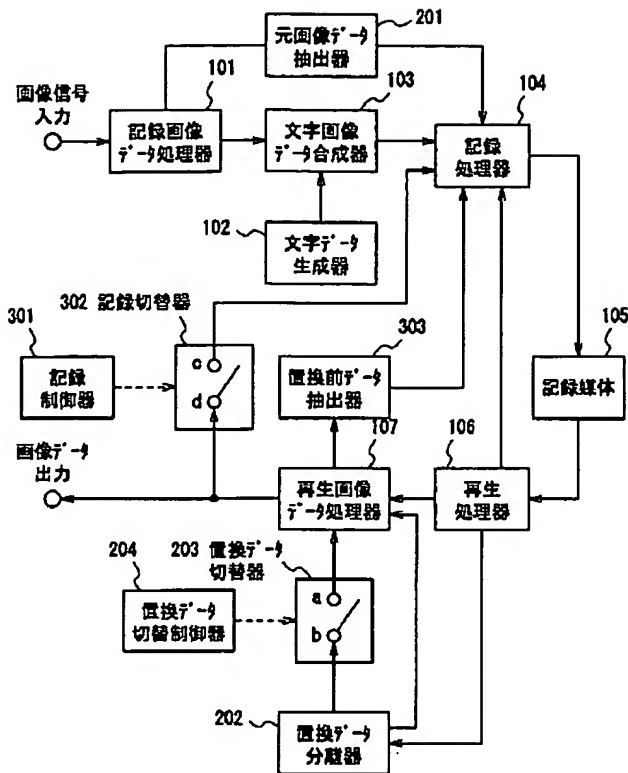


[Drawing 3]

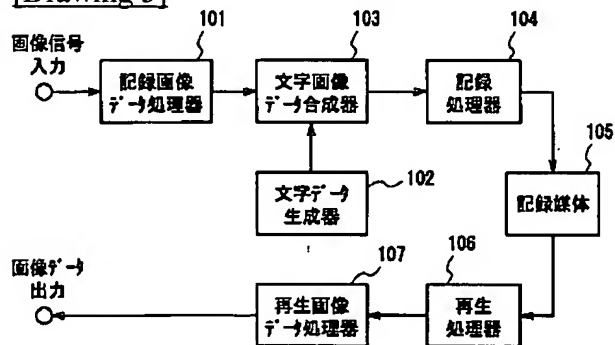


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[Drawing 4]



[Drawing 5]



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[Translation done.]